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ENVIRONMENT DIRECTORATE
JOINT MEETING OF THE CHEMICALS COMMITTEE AND
THE WORKING PARTY ON CHEMICALS, PESTICIDES AND BIOTECHNOLOGY

FACILITATION OF RISK REDUCTION
CHEMICAL ACCIDENTS: STATUS OF THE PROGRAMME AND FUTURE CHALLENGES

51st Joint Meeting of the Chemicals Committee and the Working Party on Chemicals, Pesticides and Biotechnology

11-13 February 2014, at the OECD Conference Centre, 2 rue André Pascal, Paris, beginning at 09h30 on February.

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The 23rd meeting of the Working Group on Chemical Accidents (WGCA) was held in November 2013. As part of the meeting, the WGCA organised a special session to mark 25 years of the Chemical Accidents Programme. The aim of the session was to look back at the history of the programme, consider past achievements while considering future challenges.

The future challenges fall into two main categories. First, there is the need for specific WGCA activities to address accident prevention, preparedness and response and they are outlined in the document. Second, there remains the need to improve the awareness of the outputs of the Chemical Accidents Programme and facilitate their dissemination. This is true within the OECD membership and the document notes some developments to encourage wider information dissemination. There is an even greater need for awareness of the programme and information dissemination among non-members, as well as to other intergovernmental programmes and other stakeholders.

In this respect, delegates to the Joint Meeting can play an important role by ensuring that information related to the programme is made available at national and international events related to the safe management of chemicals.

This document also proposes that the Joint Meeting assist further by forging closer links between delegations to the Joint Meeting and those of the WGCA and by strengthening efforts to integrate activities related to chemical accidents into those related more generally to chemical risk management.

ACTION REQUIRED: The Joint Meeting is invited to:

i) note the current activities of the WGCA and confirm its current commitment to the Chemical Accidents programme;

ii) endorse the proposal for wider international dissemination of the outputs of the accidents programme at national and international events; and

iii) facilitate, at a national level, closer linkages between its activities and those of the WGCA.

The Major Achievements of the Chemical Accidents Programme

1. The issue of chemical accident prevention, preparedness and response is of concern to national and local authorities as well as other stakeholders including the private sector and all those involved in high hazard industries.

2. OECD became involved in the topic in the mid-1980s following a series of large accidents. This included the incident at Bhopal in 1984 which involved many deaths, and a fire at a pesticide storage facility in Schweizerhalle, Switzerland, in 1986, which led to widespread pollution of the river Rhine. Such accidents have had major implications for human life, environmental damage as well as economic losses. The response of the OECD was the establishment of the Chemical Accidents Programme and the Working Group on Chemical Accidents. Since the origin of the work in 1988, there have been many outputs of the work though three stand out as core achievements.

3. First, the OECD Guiding Principles for Chemical Accident Prevention, Preparedness and Response set out guidance on the safe planning, construction and operation of installations as well as principles for the review of safety performance. They also address the mitigation of adverse effects should an accident occur through measures for emergency preparedness and response. The latest version of the Guiding Principles was published in 2003 and supplemented by an addendum in 2011.

4. Second, the OECD Guidance on Safety Performance Indicators (SPIs) serves as a guide for all stakeholders to determine if their implementation of the Guiding Principles has led to improved safety. They can be used by national authorities and enterprises to prepare their own SPIs. This guidance was published in 2008 in two volumes: the first for public authorities, communities and the public; and the second for industry.

5. Third, a document was published in 2012 entitled Corporate Governance for Process Safety: Guidance for Senior Leaders in High Hazard Industries. It was developed because major accidents continue to happen and at least one of the reasons appears to be due to a failure in corporate governance. This guidance identifies the main elements essential in the corporate governance of hazardous installations and is complementary to the Guiding Principles and the SPIs. It is aimed at senior leaders, for example CEOs and board members, who have the authority to influence the safety culture of their organisations.

Current and Planned WGCA activities

6. The special session of the WGCA noted these past achievements in November 2013 but also noted that serious accidents continue to occur. In considering future activities to assist in accident prevention, preparedness and response, a key concept which sums up the way forward is vigilance. The Guiding Principles, the SPIs and the Guidance for Senior Leaders are important together with national measures. But unless all those involved in accident prevention, preparedness and response are aware of the principles and remain vigilant, and unless safety becomes embedded in the culture of enterprises, then accidents will continue to happen.

7. With this in mind, it is important that new or emerging issues are identified and addressed and the WGCA has a number of current and planned activities underway. As a consequence, the outputs of the

WGCA, including the Guiding Principles, may need to be updated. A good example is the topic of the risk management of **naturally-triggered (Natech) accidents**. These are incidents that can arise through earthquakes, tsunamis, flooding or other extreme weather events. The WGCA considered this topic at a workshop held in 2012. Based on the information presented at the workshop, including a range of case studies, the WGCA is now considering the need for an addendum to Guiding Principles on this topic.

8. Along similar lines, the WGCA is considering the topic of **ageing hazardous installations**. The concern is that as facilities age they may present additional hazards. Amongst other things, the WGCA plans to consider: the extent to which the ageing of hazardous installations is recognised as a potential contributor to major accidents; how ageing is defined; how ageing is taken into account in existing programmes; the level of government intervention; methods used to assess industry response to ageing issues; and methods used to measure, and if necessary, drive improvements in, performance in managing ageing issues. The WGCA has prepared a questionnaire which is currently with delegations to gather information on these issues. At a later stage, the WGCA will follow up with a workshop on the issues raised.

9. The WGCA is also concerned about **hazardous facilities which undergo a change in ownership**. It is possible, for example, that ownership may pass from a chemical company with well-established process safety management programmes to entities with more limited understanding and commitment to process safety. In summary, the impact on chemical safety of downsizing, outsourcing, mergers and acquisitions need further consideration. The WGCA will organise a special session on this topic in October 2014 as part of its 24th meeting.

10. There are a number of other current and planned activities including a project on safety issues related to **accidents involving nanomaterials.** The secretariat is also preparing a state-of-the-art report in **inspections of hazardous** installations and how they contribute to accident prevention.

11. Since the beginning of its work, an important activity of the WGCA has been the sharing of experiences amongst delegations and other stakeholders. For this reason, the **joint EC-OECD-UNECE Accident Reporting and Analysis Scheme** remains important; this is implemented through the EC electronic Major Accident Reporting System (eMARS). As part of this scheme, non EU countries are invited to share their respective accidents for their inclusion in the eMARS system.

Dissemination of the outputs of the Programme

12. As a result of the special session of the WGCA, there have been some practical suggestions to promote and communicate the outputs of the work. A brochure on the 25 years of Chemical Accidents at OECD: History and Outlook publication has been posted on the public site and advertised electronically. It is available as a PDF file and printed copies will be distributed at relevant meetings. Delegates can request printed copies to the Secretariat for distribution. At the same time, the accidents public website will become a separate channel devoted only to the work on Chemical Accidents. A short document (a leaflet) will be prepared in early 2014 for the use of delegates so that information on the outputs can be disseminated more widely at relevant national and international events.

13. At the same time, the WGCA will strengthen its efforts related to co-ordination and outreach. It will continue to work closely with, for example, the UNEP Flexible Framework Initiative for Addressing Chemical Accident Prevention and Preparedness. It will also strengthen its co-operation with other intergovernmental organisations that have activities related to work on chemical accidents. This will include participation in meetings of the Interagency Coordination Meeting on Industrial Accidents, the first of which was hosted by UNECE in April, 2013.

14. The secretariat will also continue to contribute to the development of the IOMC Toolbox as it relates to the issue of Chemical Accident Prevention, Preparedness and Response with input from delegates to the WGCA.

Joint Meeting Support for the WGCA

15. Despite the achievements of the Chemical Accidents Programme, there were signs from the special session of the WGCA that administrations are cutting budgets for national accident prevention, preparedness and response programmes. At the national level, this may be affecting support for training for new staff involved in the work. It is also having an impact on participation in activities of the WGCA.

16. Despite this accidents continue to occur. Some recent examples include:

- 27 September 2012, Gumi, Korea; One report stated that 12 tonnes of 99 percent hydrofluoric acid leaked from a tanker; a second that eight tonnes of highly toxic hydrogen fluoride (HF) gas leaked from a facility. Five individuals were killed, 18 suffered immediate injuries while 3,000 suffered adverse health effects (rashes, headaches and respiratory diseases).
- April 17, 2013, West, Texas, an explosion occurred at the West Fertilizer Company storage and distribution facility in West, Texas, 18 miles (29 km) north of Waco. At least 14 people were killed, more than 160 were injured and more than 150 buildings were damaged or destroyed.
- January 9, 2014, West Virginia, US, a spill of 4-methylcyclohexane methanol was found coming from a 48,000-gallon tank at a chemical storage facility about a mile upriver from the West Virginia American Water plant. Nearly 200,000 residents in nine counties were told not to drink the water, avoid cooking with it, brushing their teeth or even taking a shower.
- January 9, 2014, Mie Prefecture, Japan, A blast occurred at a chemical facility killing at least five and leaving 17 injured. The cause is not yet clear.

17. It would be regrettable that in times of financial and economic constraints, governments and others might be distracted from the task of maintaining vigilance over the safety of hazardous installations.

18. The Joint Meeting can assist by making a firm commitment to the work of the Chemical Accidents Programme, by recognising its strengths and achievements, and by being aware of the continuing challenges. It could assist further by forging closer links between delegations to the Joint Meeting and those of the WGCA and by strengthening efforts to integrate activities related to chemical accidents into those related more generally to chemical risk management.